

## REMARKS/ARGUMENTS

### *Brief Summary of Status*

Claims 1-30 are pending in the application.

Claims 1-30 are rejected.

### *Double Patenting Rejections*

The Examiner asserts:

“2. Claims 8-11 and 15 are provisionally rejected on the ground of obviousness-type double patenting as being unpatentable over claims 12 and 20-23 of copending Application No. 10/802,011. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the limitation of the rejected claims are claimed in at least one of the claims 12 and 20-23 of the application’s copending application, and there is no reason why the rejected claims could not have been presented in the copending application 10/802,011.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.” (non-final office action, Part of Paper No./Mail Date 20070504, p. 2)

The Applicant respectfully traverses.

The Examiner asserts:

“3. Claims 1-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 7,159,170. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims 1-30 are narrower in scope than the patent claims 1-30, for example, the instant application using a decoder to perform symbol decoding of an LDPC-BICM (Low Density Parity Check-bit Interleaved Coded Modulation) signal which different from the patent claim is that the decoder is operable to perform decoding of an LDPC (Low Density Parity Check) coded modulation signal and the instant claim uses a first symbol ... mapped according to a corresponding Gray code mapping and the second symbol.. mapped according to a non-Gray code mapping which is different from the patent claim, using a first symbol ... mapped according to a first mapping and a second symbol ... mapped corresponding to a second mapping. Therefore, the instant

claims 1-30 are an obvious variation of the patent defined in the patent claims 1-30.”  
(non-final office action, Part of Paper No./Mail Date 20070504, p. 3)

The Applicant respectfully traverses.

With respect to:

(a) the provisional rejection of claims 8-11 and 15 on the ground of obviousness-type double patenting as being unpatentable over claims 12 and 20-23 of copending Application No. 10/802,011; and

(b) the rejection of claims 1-30 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 7,159,170;

the Applicant respectfully submits a terminal disclaimer to obviate any double patenting rejection (provisional or otherwise) of the Examiner-referenced claims within each of the U.S. patent application serial number 10/802,011 (Docket No. BP3134CIP), filed on 03-16-2004, pending, and U.S. patent application serial number 10/668,526 (Docket No. BP3089), filed on 09-23-2003, and which is now issued as U.S. patent 7,159,170 B2 (Docket No. BP3089), issued on 01-02-2007, that are identified within the office action.

To avoid paying multiple terminal disclaimer fees, the Applicant respectfully submits herewith a single terminal disclaimer, based on common ownership, in which the terminal disclaimed is based on the conflicting, commonly owned double patenting references.

In addition, the Applicant respectfully points out that the [a] present U.S. utility patent application, [b] U.S. patent application serial number 10/802,011 (Docket No. BP3134CIP), filed on 03-16-2004, pending, and [c] U.S. patent application serial number 10/668,526 (Docket No. BP3089), filed on 09-23-2003, and which is now issued as U.S. patent 7,159,170 B2 (Docket No. BP3089), issued on 01-02-2007, are all commonly owned by the Applicant, namely, Broadcom Corporation, Irvine, CA.

Moreover, the Applicant respectfully points out that the present U.S. utility patent application claims priority to the U.S. patent application serial number 10/668,526 (Docket No. BP3089), filed on 09-23-2003, and which is now issued as U.S. patent 7,159,170 B2 (Docket No. BP3089), issued on 01-02-2007, as a U.S. continuation-in-part

patent application, and the subject matter thereof is incorporated by reference in its entirety and made part of the present U.S. Utility Patent Application for all purposes (e.g., see p. 1 of Applicant's originally filed written description in the specification).

***35 U.S.C. § 112, First Paragraph***

The Examiner asserts:

“5. Claims 8 to 15 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The components that perform the decoding function critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The disclosure describes low density parity check decoding process with respect to figures (19 to 22) wherein the decoder includes edge messages, a bit node calculator, and a check node calculator for performing decoding of a low density parity check (LDPC) code.” (non-final office action, Part of Paper No./Mail Date 20070504, p. 5-6)

The Applicant respectfully traverses.

The Applicant has amended claim 8.

The Applicant respectfully believes that claim 8 is allowable.

Moreover, the Applicant respectfully believes that dependent claims 9-15, being further limitations of the subject matter as claimed in independent claim 8, respectively, are also allowable.

The Applicant respectfully believes that, in light of amendment to claim 8, these Examiner-identified rejections of claims 9-15 are obviated since claims 9-15 include subject matter that is further limiting of the subject matter of independent claim 8.

In light of such amendments, the Applicant respectfully requests that the Examiner withdraw the rejection to claims 8 to 15 under 35 U.S.C. § 112, first paragraph.

***35 U.S.C. § 112, Second Paragraph***

The Examiner asserts:

“7. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between

the elements. See MPEP § 2172.01. The omitted elements are: the edge messages, the bit node calculator and the check node calculator necessary for the decoder to perform its decoding function as defined in the specification.

Claims 9 to 15 are also rejected due to their dependency on a rejected base claim.” (non-final office action, Part of Paper No./Mail Date 20070504, p. 6)

The Applicant respectfully traverses.

The Applicant has amended claim 8.

The Applicant respectfully believes that claim 8 is allowable.

Moreover, the Applicant respectfully believes that dependent claims 9-15, being further limitations of the subject matter as claimed in independent claim 8, respectively, are also allowable.

The Applicant respectfully believes that, in light of amendment to claim 8, these Examiner-identified rejections of claims 9-15 are obviated since claims 9-15 include subject matter that is further limiting of the subject matter of independent claim 8.

In light of such amendments, the Applicant respectfully requests that the Examiner withdraw the rejection to claims 8, and 9 to 15 under 35 U.S.C. § 112, second paragraph.

The Examiner asserts:

“8. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8, lines 1-3, “A decoder that is operable to perform symbol decoding of an LDPC-BICM (Low Density Parity Check-bit Interleaved Coded Modulation) signal that includes at least one symbol that is mapped using a non-Gray code mapping” recites only preamble of the claim, there isn’t any element or means that is recited in the body of the claim. Appropriate correction is required.” (non-final office action, Part of Paper No./Mail Date 20070504, p. 6-7)

The Applicant respectfully traverses.

The Applicant has amended claim 8.

In light of such amendments, the Applicant respectfully requests that the Examiner withdraw the rejection to claim 8 under 35 U.S.C. § 112, second paragraph.

***Claim Rejections (Objections)***

The Examiner asserts:

“9. Claims 1-15 are objected to because of the following minor informality, for example,

As per claim 1, line 1, “operable” a positive term should be used.

As per claim 8, line 1, “operable” a positive term should be used.

As per claims 2-7 and 9-15, these claims are also objected to because they dependent upon the rejected base claims.” (non-final office action, Part of Paper No./Mail Date 20070504, p. 7)

The Applicant respectfully traverses.

It is unclear to the Applicant exactly what is the basis of the Examiner’s rejection by way of ““operable” a positive term should be used.” ”

Does the Examiner intend to assert that the term “operable” is not a positive term?

Does the Examiner intend to assert that the term “operable” is not descriptive of the subject matter claimed by the Applicant?

The Applicant respectfully requests clarification from the Examiner re: this rejection.

The Applicant respectfully believes that the term “operable” is an accurate and sufficient term to describe the subject matter as claimed by the Applicant in independent claims 1 and 8.

The Applicant respectfully points out that analogous terminology of “is operable to” has been employed by the Applicant in another U.S. utility patent application, which has now issued as U.S. patent, and which the Examiner identifies within the office action.

To illustrate this specific example to the Examiner, the Applicant respectfully points out that analogous terminology of “is operable to” is employed in claim 1 of U.S. patent application serial number 10/668,526 (Docket No. BP3089), filed on 09-23-2003, and which is now issued as U.S. patent 7,159,170 B2 (Docket No. BP3089), issued on 01-02-2007.

For example, claim 1 in the U.S. patent application serial number 10/668,526 (Docket No. BP3089), filed on 09-23-2003, and which is now issued as U.S. patent 7,159,170 B2 (Docket No. BP3089), issued on 01-02-2007 includes a preamble that employs the language “A decoder that is operable to perform symbol decoding of an LDPC (Low Density Parity Check) coded modulation signal, the decoder comprising:” (see U.S. patent 7,159,170 B2, col. 33, lines 54-56)

The Applicant respectfully requests that the Examiner withdraw the rejection/objections to claims 1-15.

The Applicant respectfully believes that claims 1-30 are in condition for allowance and respectfully requests that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present U.S. utility patent application.

RESPECTFULLY SUBMITTED,

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